ASHLAND MINERAL WATERS

(Continued from Page Three.)

MINERAL RESOURCES OF OREGON

For purposes of comparison it is convenient to use the percentage of total salts, with the salinity added. The following table shows the percentage composition of the salts in solution in each of the mineral waters from the Ashland district, and also the total "salinity" or the total quantity of dissolved salts in parts per million of water.

These analyses serve to bring out many facts. The two analyses from Colestin either came from different springs or indicate a very marked change in the composition of the water there (assuming that both are accurate). The same conclusion must apply to the two analyses of the water from the Soda Springs.

All of the springs in the Ashland region contain notable amounts of chlorine, with the exception of one at Soda Springs, the "White Sulphur" spring being especially rich in this element. One of the analyses of the Colestin water shows a large amount of sulphuric acid radical, but the other mineral waters of this region contain very little. Carbonic acid is most abundant at Soda Springs, the artesian well, and Colestin; it is present in unusually small amount at White Sulphur Springs. Sodium is very abundant in the Lithia Springs and is surprisingly scanty in one analysis of Colestin and one of Soda Springs water. Potassium is important in the Ashland Sulphur Springs and in the White Sulphur Springs and is found in the Colestin water. But according to Professor H. V. Tartar of the Oregon Agricultural College the analyses which show more potassium than sodium are probably incorrect in that respect. This throws doubt on the results for sodium and potassium in analyses 6, 7, 11, and 14. Omitting these analyses the least sodium is found in the Shepard sulphur spring water and the most potassium in the various lithia spring waters. Lithium is most abundant in the Ashland lithia spring water and is surprisingly abundant in the artesian well water. Calcium is most abundant at Colestin, where the mineral water is constantly depositing calcite or calcium carbonate; it is also abundant at Soda Springs and Shepard sulphur springs; very little calcium is present in the waters of Berkeley and White Sulphur Springs. Magnesium is especially important at Soda Springs and Shepard Sulphur Springs, and deficient at Berkelev and White Sulphur Springs and in the artesian well water. Iron oxide and alumina are relatively abundant at Soda Springs and lacking at Colestin, Ashland Sulphur, White Sulphur, and Old Lithia Springs. Silica is very abundant in all the sulphur waters except the Shepard and is notably low in amount in all the lithia waters including the artesian water.

MINERAL WATERS

"Colostin" Springs	22 14.73	Servere at	13 29.95	10000	12 22	62	Acres 1	******	******	-	T. Stereet	Name of Street	10.01 87	28	o trace		8 10.15	-	3.89	Tables .				2.98	į,	00 100.0 0
"Colentia" Springs	90	-	-	Santa.		20.0		1	1	16.00	trace	-	7	115.01	None	0	12.88		200				None	1.83		100.00
abod ydquill" "againgd	20.30		.13	See east		48.53			A1000	+++++	Secure		100 00	E 00	•	=	3.44		1.80	Anna .	2 2.00		17	20		3164
"sgaing abod"	None	TANKS.	1.47	yeares	*******	67.11			-		1400	******	98	8.31	None	V(4284)	8.15		6.67				9 95	5.11		100.00
egalitqë aboë	11, 26	CARROL.	*****			10.85	-	Section.		0.00	93	10000	11.38		-	100000	5 H		13.75	.75		1	8 8	2.30		100.00
"Peat Marsh"	15.43		1.66	eccess.		43.11	0	20000		NAME OF TAXABLE PARTY.		36	17.62	98		11111	5.44		1.00	21110		*	3	12.83		100.00
-Shepard" Sul-	15 43		7.59	Access.		48.57	10	8	Trace	90.	100	8	7.01	40	200	3	8.37	******	90	.23		8	8	1.88	.37	100.00
"Esticiey Sul-	13.00	3	4.20	10		75	93				74.	2.30	22.61	24		100	1.43	Service	12	18	100 110	11	1.43	18, 72	62	8
-lu8 widw"	31.30		2.89			5.84	2000	141111	******	0.000	*****	None	11.17	13.54	11-4000	3	8	Sec.	100	*****	2000	-	None	12.01		150.00 100.
-log basidan" "udq	12.68		2,89	155000		12 22			100	Section			9.05	31.05		-	24		N 28		111111111111111111111111111111111111111		Nose	*20.81		100.00
115W malestrA	8.03	10.	Section	70		22.10	0.0	X+8,44	1	Acres 16	******	00	26.99	35	3	60.	2.03	.01	.83	8	10.	-	2	80	*	
Punidah" xan M	25 62		55.55	100	STATE OF	38 41		Section 1		(despes)		60011	22.63	2 24	0.1	10	20 - K	434500	1.82	TARRES.	******	-				100.00
"width wat!"	25,75	£0.	trace	The same	1	19 15	8	6	8	17.003	The control	2.87	20,62	1.17	69.	.05	20.02	3	2.55	20.	10.	3	20	3.5		100 00
"MANLI NO"	23,02	200	101	Name of Street		41 01	8	100	53.		Name of the Party	2.66	22 62	33.	10.	15	51.00	.02	3.04	39.	60		8	13		136.00
heriden. "midzist	III			100	20.16			A Coresia	10000	110000	A. C. C. C.	1	80.73		125		4.73	The sale	2 98	40000	0000		1.62			100.00
Chemical	Ü	B:	80	H.18	CO2	HCO.	NO4	NOS	FO4	App.	B,Chr	BOy	Na	X	12.	NE.	Ch	Ethanica	Mg	F0	MagOs	ForOs	Algos	Sin.	0	
Constituent	biorino	rotaine	ulphuris seid redical	ydrogen sulplide.	arbonic seld redical	icarbonic self radical .	Help and maked	Report and radio.4	hosphoric acid radical	resolve need rudies?	sie seld radiest.	oraborite serie radical	adimin	Athenius S.	ithiam	mmonium	algium	arium	gaoni stra		stgrace oxide	on oxide	Wildland Committee of the Committee of t	tantum gade	TO MAKE IN	Studen sands successiBles

ASELAND AND BADEN BADEN

(Continued from Page Three.)

sold would keep 10 cents on each sold. There could be lawn tennis and bowling affeys. The schemes for revenue seem to me almost unlimited. Beauty lectures would draw a whistled in school, and the teacher as many women who desire to be again, and teacher scoided him. He highest kind obtainable. Many of is very easy to get to from this way, beautiful as there are names in the said. "I didn't whistle; it whistled these are very educational. directory. There also could be dancing day and evening. Perfumes, change. They permit people to play The cellings were finely frescoed

Pardon this very long letter, but as on rainy days would be under

I was so full of inspiration over the beautiful watering place at Ashland Baden to be. Like the little boy who Kursal dining halls.

Itself." from each dollar's worth of goods room in Baden had many mirrors eth in his heart so is he." sold. Wheel chairs to let to in- that reflected the gaiety of the scene, Since so generous an appropria-

to pass hours that otherwise would tance to get the water from any spec- ful Ashland spa, lifled spring. This was a good idea,

MINERAL RESOURCES OF OREGON

In the tables which are added to permit a ready comparison of the composition of Ashland mineral waters with waters from other localities the lithia waters are shown first, followed by the "sulphur" spring waters, and these by the soda and Colestin spring waters. Analyses of waters not from Oregon are quoted from F. W. Clarke of the U. S. Geological Survey (Bulletin 491, 1911) and from J. K. Haywood of the U. S. Bureau of Chemistry (Bulletin 91, 1905).

It is noteworthy that the total amount of salts dissolved in the lithia waters is much greater than the salinity of the sulphur or soda spring waters. Indeed the average salinity of the Ashland lithia water is 8982 parts per million, while the average of the Ashland sulphur waters is only 830 parts per million and the average of the Soda and Colestin spring waters is 3030 parts per million. That is, the salinity of the Ashland lithia waters is nearly three times that of the Colestin and Soda Spring waters and more than ten times that of the Ashland sulphur waters. Furthermore, the average salinity of Ashland lithia waters is about 30 percent greater than the average salinity of the prominent lithia waters from other localities. As shown in the table

LITHIUM CONTENTS OF ASHLAND AND OTHER WATERS

	Lithium con- tent in parts per million of water	Lithium per cent of total solids
White Rock Lithia, Waukesha, Wis	12.63	1.05
Ashland Lithia, Ashland, Ore	9.70	.12
New Lithia, Ashland, Ore.	8.42	.09
Old Lithia, Ashland, Ore.	7.90	.07
Steamboat Springs, Nev	7.70	.27
Steamboat Springs, Nev Hathorn Springs, Saratoga, N. Y.	7.40	.06
Old Faithful Geyser, Yellowstone Park	5.50	.40
Congress Springs, Saratoga, N. Y.	5.40	.05
Carlsbad Spring, Saratoga, N. Y.	5.3	04
Geyser Spring, Saratoga, N. Y	3.6	05
Magnetic Spring, Saratoga, N. Y.	3.2	.07
Oio Caliente Spring, New Marico	3.14	.12
Chief Spring, Saratoga, N. Y.	2.8	.03
Avondack Spring, Saratoga, N. Y.	2.5	.08
Artesian Lithia, Ashland, Ore	2 18	.03
Excelsior geyser, Yellowstone Park	2.00	.15
Dule Lick Springs Bontucks	1.80	.02
Lincoln Spring, Saratoga, N. Y.	1.8	.01
Cuampion Spring, Saratoga, N. I	.90	01
Sheboygan Springs, Sheboygan, Wis	.20	006

MINERAL WATERS

Blue Lick, Kentucky	54.31 1.35 1.98 1.98 20.02 3.80 20.02 20.02 20.02	100.00
Arceian IleW	8.08 0.01 2.08 2.08 2.08 2.08 2.08 2.08 2.08	100.00
Congress, Saratoga, N. Y.	42.00 1.13 02 08 18.59 trace 27.62 27.62 27.62 4.08 trace 09 3.41	100.00
Mear Ash- aidtid baal	25.62 3.38 3.84 2.91 3.02 11.82	100.00
Hathom, Saratoga, Y. Y	42 42 16 02 02 19 28 19 28 27 29 68 16 5.69 trace 17 3.92 3.92	100.00
New Lithia	21.70 trace 44.64 44.64 22.98 22.98 1.17 1.17 2.06 3.05 3.05 3.05 3.05 3.05 3.05 3.05 3.05	100.00
White Rook Lithin, Win,	36.06 None 3.29 29.18 37 trace None None None 1.05 trace 6.72 3.12 3.12 None 1.05 1.05 1.05 1.05 1.05	100.00
nidrid bio	2	100.00
swaleinat2 sipilaD	34.60 19.96 37.29 3.64 1.44 1.44 1.7	100.00
bnaldaA"	28 28 30 20 14 25 14 15 20 15 20 14 25 15 25 15 25 25 25 25 25 25 25 25 25 25 25 25 25	100.00
Syrabol	CI Br SSO ₄ CCO ₅ NO3- NO3- NO3- NA48O ₄ NA5- NA6- NA6- NA6- NA6- NA6- NA6- NA6- NA6	
Constituent	Chlorine Broinine Broinine Jodine Gulphuric acid radical Garbenic acid radical Bicarbonic acid radical Nitre acid radical Netaboric acid radical Netaboric acid radical Sodium Lithium Lithium Lithium Lithium Magacaium Lithium Magacaium Lical Magacaium Lical Magacaium Lical Magacaium Lical Narionium Strontium Sarion Lical Magacaium Lical Magacaium Lical Magacaium Silica	

shelter. As in Baden-Baden, hotels, ক্ৰক্তিক্তক্ত্ৰক্তক্তক্তক্তক্তক্তক্ত boarding houses and apartments were clustered as close as possible to the Kursal grounds. The only stipulation made by the inkeepers was that the guests must eat one meal daily at their houses or pay for it if not partaken of. Most everyone projected movement of creating a hotels with now and then a meal at took the regular three meals at their the Kursal for a change. But there miles from Ashland, yet very few that I had to write you about the old were throngs of pleasure-seekers Baden springs and send a few sug- from Paris and nearby cities and gestions for the American Baden- towns who were the patrons of the

A beautiful hall could be devoted through of women daily, for there are reproved him—then he whistled to moving pictures, the films of

The buildings could be of stucco, recreations about that the invalids to Rader's ranch and come down laces, gloves, confectionery and jew- which is not an expensive material, would forget about their condition. Lost Creek canyon. Lost Lake and clry could be sold in little booths in and yet esthetically beautiful when Much illness is more in the mind Lost Creek are justly named. Going the arounds near the Kursal the well made. The interiors could be than the body, for the Book of all down the canyon, you lose the creek same as in Baden, 10 cents deducted as beautiful as one desired. The ball Books tells us that "As a man think- and would not find the lake unless

Most sincerely yours, MRS. J. E. HUTCHINSON.

By Frank Jordan

************* Lost Lake, one of nature's natural attractions, is situated only fifteen people in Ashland know of its existence only by name. This lake should become a very valuable asset to Ashland as a scenic side trip for tourists

It lays just over Grizzly Peak and but to enjoy the beauty and admire There would be so many pleasant the work of nature you should go you knew about where it was.

Lost Creek canyon is really a canvalids. In Boston, Mass., where I and it was lighted from glass chantion for the project is already as- you within a canyon. Starting from come from, there is a woman's ex- deliers that glittered like diamonds. sured it is well begun, and therefore an open field, you follow down the Building contractor of Ashland. Jake until you get right into it. already half done, and I am confi- creek, which has easy sloping sides whist in a card room, but no gam- In Homburg there was what was dent that no more successful mineral covered with heavy timber, with only bling. The guests pay 16 cents each called a "trinkballe" or drinking springs resort will exist either in the occasionally a fallen tree to interfor every game played. This card hall, where all the waters of the dif- old world or the new than that whose fere with travelling. You then come The creek bed from here drops rap- scenery will be well repaid if they room is well patronized by elderly ferent springs were conducted, and healing waters will prove a blessing to a small glade which looks as idly, leaving perpendicular walls of make the trip to Lost Lake. people, who find it a pleasant way one did not have to go any great dis- to all who seek them at the beauti- though nature had cleared and lev- solid rock, in some places two or canyon proper. The water here falls could become so rugged and steep tions.

MINERAL RESOURCES OF OREGON

					In		00			q	
Constituent	Symbol	Ashland	Excelsior geyser	White Sul-	Old Faithí	Berkeley Sulphur	Ojo Cali- ente, New Mexi	Shepard Tudqlug	Grand-Grille, Vichy, Fran	Peat Mars Sulphur	Steamboat Springs, Nev.
Chlorine	5	12.48	20.91	31.30	31.64	13.00	8.82	15.43	6.17	15.43	35.00
Fluorine	FF					8	19	20.			
Sulphuric acid radical	H.S.	3.89	1.61	2.89	1.30	4.26	5.77	7.59	3.75	1 66	4.58
Carbonic acid radical	00		25.01	7.28	8.78		41.91		45.57		5.0
Nitric acid radical I	NO.	23.87				33.94		48.57		43.11	
Vitrous acid radical	NO.					3 : 42		8			
Passing acid radical	PO4		96		94		.01	trace	1.52		.03
Metaboric acid radical	BO		1.34	None		2.10		3.8	5	95	8.88
Sodium	Na.	9.95	31.34	11.17	26.42	22.61	38.08	7.91	35.27	17.62	
Lithium	L	24.04	2.45	50.03	1.83	5	1.20	€.	88	.85	
Ammonium	NH.		trace	.05	trace			88			
Calcium.		2.71	.17	25	Π.	1.53	.87	8.37	5.20	5.44	.25
Magnesium	Mg	2.24	17	. 28	8	.38	4.5	8.18	5.7	1.66	10
[ron.	Fe	*****	.13	*****	trace	38.		63	*******	******	trace
Alumina		None	17	None	19		88	00	3		
Silica		a20.81	16.58	12.01	27.58	18.73	2.30	1.86	1.32	12.83	11.41
Titanium oxide	Tio.					23		37	1 4		./:
Solinity names non-million		100.001	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

MINERAL WATERS

The Spruedel. Carlebad, Bohemia	2 23 2 23 3 2 49 3 2 49 3 2 49 1 3 5 1 3 6 1 1 3 4	5431
Colestin - Springs	14.78 29.95 18.73 19.01 29 trace 10.15 3.89 2.96	2881
Hikutaia, New Zea- Jand.	2 : 8 8 : : : 82 : 2 8 : : : 84	7673
Colestin Springs	1 S : 12 : 13 : 13 : 13 : 13 : 13 : 13 : 13	100.00
McClelland Well, Cass Co., Mo.	3 288 9 8 3 8 8	2069
Murphy Soda Soda Springs	8 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	3164
Wilhelmsquelle, Karlsbrunn, Austria	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	622.60
spaintgs	Nome 1, 47 67, 11 67, 11 8, 38 8, 38 8, 38 8, 15 5, 67 5, 11	1373
Excelsior Springs	4 4 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	489
Soda springs	11 26 12 12 13 14 15 15 15 15 15 15 15 15 15 15 15 15 15	2848
Symbol	N N N N N N N N N N N N N N N N N N N	
Constituent	Chlerine Browine Fluorine Sulpharie acid radical Sulpharie acid radical Sulpharie acid radical Nithus beid radical Nithus beid radical Nithus beid radical Nithus beid radical Acceptoric acid radical	Sallaity, parts per million

about fifty feet, slipping down over in such a short distance. You now



Prominent in Commercial Club Work. Member Elks Lodge.

eled it to get a good jumping off three hundred feet high. It does place. You are then ready for the not seem possible that the formation one of Ashland's best close-in attrac-

solid rock to within about five feet climb down the cliffs to the creek, of the bottom, jumping off into a which a few minutes before was very gool about twenty feet in diameter. easy traveling, to a creek that is very near impassable-brush, mosscovered logs, some too old and decayed to hold you up, but you do not know that until you have picked yourself up. No use getting wise then. You have to travel in the creek, on the rocks and logs, as the sides are too steep. As you journey along picking your way you discover the water has disappeared from the creek. From here the water travels underground and you see no more of it until you reach the lake. The lake is a very interesting study. It is from two to three hundred feet wide and about a quarter of a mile in length. The mountain sides here are very steep and completely surround the lake, as there is no visible

> The lake is well stocked with fish. The canyon is so steep and heavily timbered that you cannot see the

Any one wishing to take a short vacation and at the same time be able to see some beautiful mountain

With little effort this lake can be made easily accessible and will prove